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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,937	09/28/2001	Katsuya Anzai	YKI-0074	3361

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EXAMINER

WU, XIAO MIN

ART UNIT PAPER NUMBER

2674

DATE MAILED: 09/24/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/965,937

Applicant(s)

ANZAI ET AL.

Examiner

XIAO M. WU

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Dawson et al. (US Patent No. 6,229,506).

As to claim 1, Dawson discloses a semiconductor device comprising: a switching thin film transistor (P4, 240, Fig. 2) which operates by receiving a gate signal (210, Fig. 2) at its gate (G, Fig. 2) and for reading a data signal (220, Fig. 2); and an element driving thin film transistor (P2-260, Fig. 2) provided between a driving power supply (295, Fig. 2) and an element (290, Fig. 2) to be driven, for controlling the power supplied from the driving power supply to the element to be driven based on a data signal supplied from the switching thin film transistor; characterized in that a compensation thin film transistor (N1-270, Fig. 2) having an opposite conductive characteristic (e.g. N-type transistor) with respect to the element driving thin film transistor (e.g. P-type transistor 260) is provided between the driving power supply (295) and the element driving thin film transistor (260).

As to claim 2, Dawson discloses a gate (G, 270, Fig. 2) and a source (S, 270) of the compensation thin film transistor (270) are connected (e.g. the gate G is connected to S through the transistors P1 and P4, and capacitor Cs as shown in Fig. 2), and the compensation thin film

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transistor ((N1 270) is connected between the driving power supply (295) and the element driving thin film transistor (P2 260).

As to claims 3, 5, Dawson discloses that the element driving thin film transistor comprises a plurality of thin film transistors (P2, P3, Fig. 3) connected to each other in parallel.

As to claims 4, 6, Dawson discloses that the compensation thin film transistor (N1 270) is a diode connected transistor (e.g. the transistor 270 is connected to the diode 290) connected between the driving power supply (295) and the element driving thin film transistor (260).

As to claims 7, 8, Dawson discloses the element to be driven is an electroluminescence element (e.g. OLED) which includes an emissive layer between a first electrode and a second electrode.

As to claim 9, Dawson discloses the semiconductor is used for an active matrix type display device which comprises switching thin film transistor (240), element driving thin film transistor (260), compensation thin film transistor (270) and a display element (290).

As to 10, Dawson discloses that the element driving thin film transistor (375, Fig. 3) and the compensation thin film transistor (365, Fig. 3) are placed so that a channel length direction (the gate channel length direction) of the thin film transistors is along the extension direction of the data line (310) for supplying the data signal to the switching thin film transistor (360, Fig. 3).

As claim 11, Dawson discloses that a channel length direction of the element driving thin film transistor does not coincide with the channel length direction of the switching thin film transistor. For example, as shown Fig. 3, the channel of the element driving TFT 375 is in a vertical direction and the channel of the switching TFT 360 is in a horizontal direction.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dawson et al. (US Patent No. 6,229,506) in view of Higashi (US Patent No. 6,136,632).

As to claim 12, it is noted that Dawson does not specifically disclose the element driving thin film transistor is formed so that its channel length direction is along the scan direction of a line pulse laser for annealing the channel region of the transistor. Higashi is cited to teach a thin film transistor is formed so that its channel length direction is along the scan direction of a line pulse laser for annealing the channel region of the transistor (see col. 11, lines 49-60). It would have been obvious to one of ordinary skill to have modified Dawson with the features of forming the thin film transistor as taught by Higashi so as to produce an active matrix substrate.

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Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The US Patents 5,952,789, 6,204,610, 6,469,318, 6,486,606, 6,535,185, 2003/0090446, 2003/0103022 are cited to teach an electroluminescent display device.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiao Wu whose telephone number is (703) 305-4721.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:


(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377

xw

September 20, 2003


XIAO WU
PRIMARY EXAMINER
ART UNIT 2674